

STORAGE SYSTEM FOR A BOAT

Technical Field

The present invention relates generally to storage systems for boats.

- 5 More particularly, the present invention relates to storage systems for storing items such as deep cell batteries.

Background

- Improvements have been made in fishing boats to enhance deck organization. An important aspect of deck organization relates to maximizing the amount of usable storage space, and efficiently using the storage space that is available. Storage systems have been developed for promoting the efficient use of storage space in a boat. For example, United States Patent No. 5,586,515 discloses a storage system for storing fishing rods. Also, United States Patent No. 6,574,911 discloses a storage system for efficiently storing tackle. Other systems for promoting the effective use of storage space in a boat are needed.
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Summary

One aspect of the present invention relates to a storage system for a boat that promotes the more efficient use of space and facilitates accessing components stored within the storage space.

- 20 Another aspect of the present disclosure relates to a boat including a storage region, a component carrier positioned within the storage region, and a guide structure for guiding the component carrier between first and second positions within the storage region.

- Examples of a variety of aspects in addition to those described above are set forth in the description that follows. It is to be understood that both the forgoing general description and the following detailed description are exemplary and explanatory only and are not restrictive of the broad inventive aspects that underlie the examples disclosed herein.
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Brief Description of the Drawings

FIG. 1 is a plan view of a boat having an example storage system in accordance with the principles of the present disclosure, the system includes a component carrier shown in a position where the carrier is readily reachable through a hatch for accessing of the storage space;

FIG. 2 is a perspective view of the boat of FIG. 1 with the hatch covers removed and the component carrier in a rearward position;

FIG. 3 is a perspective view of the boat of FIG. 1 with the hatch covers removed and the component carrier in a forward position;

FIG. 3A is an enlarged view of a portion of FIG. 3;

FIG. 4 is a plan view of a component carrier having features that are examples of inventive aspects in accordance with the principles of the present disclosure;

FIG. 5 is a cross-sectional view taken along section line 5-5 of FIG. 4;

FIG. 6 is a side view of the component carrier of FIG. 4; and

FIG. 7 is a cross-sectional view taken along section line 7-7 of FIG. 3A.

Detailed Description

FIG. 1 illustrates a boats 20 having features that are examples of inventive aspects in accordance with the principles of the present disclosure. The boat includes a bow 22, a stern 24, a port side 26, and a starboard side 28. A keel line 30 bisects the boat 20 and extends between the bow 22 and the stern 24. A raised front casting platform 32 is positioned adjacent the bow 22. A recessed cockpit 34 is positioned aft of the front casting platform 32. The floor of the cockpit 34 is recessed relative to the front deck 32 by a step 36 positioned slightly forward of mid-ship. Port and starboard consoles 38, 40 are positioned adjacent the front of the cockpit 34. The starboard console 40 includes a steering wheel 42 and other structures for operating the boat such as gauges, switches and other instrumentation. A driver's seat 44 is

positioned behind the starboard console 40. A port side passenger seat 46 is positioned behind the port console 38.

Referring still to FIGS. 2 and 3, a compartment 48 is preferably positioned beneath the front platform 32. In certain embodiments, the compartment 48
5 can include a storage compartment, a bait well, a live well or other structures. The compartment 48 can be accessed by an opening 37 (e.g., a hatch) defined through the floor of the front platform 32. The opening 37 is covered by a door 39 (e.g., a panel or hatch cover) that can be completely removed or pivoted open to provide access to the compartment 48 through the opening 37. The hatch door 39 is shown in FIG. 1, but all
10 hatch doors have been removed from FIGS. 2 and 3 for clarity. As shown in FIGS. 2 and 3, the compartment is defined by a box-like structure 43 mounted to the underside of the front platform 32.

Referring still to FIGS. 2 and 3, the cockpit floor defines an opening 60 (e.g., a hatch) for accessing a storage region 61 located beneath the cockpit floor. A
15 door 62 (see FIG. 3A) is provided for opening and closing the opening 60. When closed, the door 62 is flush with the cockpit floor so as to form a portion of the cockpit floor. When open as shown in FIG. 3A, the door 62 is pivoted upwardly so as to provide ready access to the storage region 61 through the opening 60. The storage region 61 is defined between the cockpit floor and the hull 95 of the boat (see FIG. 7).
20 Preferably, the storage region 61 also extends from beneath the cockpit floor to a region beneath the front platform 32. For example, the storage region can extend to a location beneath a bottom wall 45 of the box-like structure 43 mounted beneath the front platform 32.

Because the storage region 61 is large relative to the size of the access
25 opening 60, portions of the storage region 61 can be difficult to access through the opening 60. To make the storage space distant from the opening 60 more readily usable, the boat includes a component carrier 80 (see FIGS. 1-3) mounted within the storage region 61. The component carrier 80 is moveable between a rearward position 81a (see FIG. 1) where the component carrier 80 is located directly beneath the opening
30 60, and a forward position 81b where the component carrier 80 is located directly

beneath the front platform 32. By placing an object on the component carrier 80 while the carrier 80 is in the rearward position 81a, and then pushing the carrier 80 to the forward position 81b, the item can be readily stored in the region beneath the front platform that would otherwise be relatively difficult to access. The item can be readily
5 retrieved from beneath the front platform by pulling the component carrier from the forward position 81b back to the rearward position 81a.

In the depicted embodiment, the component carrier 80 is adapted for carrying a pair deep cell marine batteries 91a and 91b. The marine batteries 91a, 91b are electrically connected to a power panel 100 located at the bow of the boat. In the
10 depicted embodiment, the power panel 100 is an electric trolling motor power panel having a voltage port for plugging in an electric trolling motor 111. The panel 100 can also include other features such as a trim/tilt switch for the main motor and a battery voltage indicator.

The batteries 91a and 91b are shown wired to the panel 100 by cables
15 105 routed between the hull and the floor. For example, the cables 105 are shown routed beneath the front platform 32 along the compartment 43 and to the bow. A cable conduit 106 can be provided for receiving the cables 105. Preferably, the cables 105 have sufficient slack to allow the component carrier 80 to be moved between the rearward and forward positions 81a, 81b without restriction from the cables 105.

20 In the depicted embodiment of FIGS. 4-6, the component carrier 80 is in the form of a tray having a generally rectangular configuration including a length L that extends between front and back ends 120, 122 of the carrier 80, and a width W defined between left and right sides 124, 126 of the carrier. Left and right recessed edges 128, 130 are positioned respectively at the left and right sides 124, 126. The tray also
25 includes a central region 90 defining a pair of openings 92 sized to receive deep cell marine batteries. The openings 92 preferably extend completely through the central region. To accommodate deep cell marine batteries, each opening preferably has a width W_1 of at least 5 inches, and a length L_1 of at least 10 inches. In one embodiment, the length L_1 is about 12 inches and the width W_1 is about 6 3/4 inches. The openings

can be referred to as "through-holes" since the openings extend completely through the central region 90.

The boat 20 preferably includes structure for guiding the component carrier 80 between the rearward and forward positions 81a, 81b. Examples of structures include tracks, rails, slots, guides, rails or other structures. As depicted in FIGS. 1, 3A and 7, the guide structure includes two tracks 210, 212 positioned on opposite sides of the keel line 30. The tracks are arranged generally parallel and extend between the rearward and forward positions 81a, 81b. The tracks 210, 212 are secured to the hull 95 and include undercut regions 214, 216 for receiving the recessed edges 128, 130 of the component carrier 80. In this manner, the edges 124, 126 are captured between the tracks 210, 212 and the hull 95. The tracks 210, 212 prevent lateral movement and upward/downward movement of the component carrier 80, but allow the carrier 80 to be manually slid forward and rearwardly along the tracks. The tracks 210, 212 can be fastened or affixed to the hull by any number of conventional techniques such as screws, bolts, adhesive or other methods.

Referring to FIG. 7, the batteries 91a, 91b are sized to fit through the through-holes 92 and rest upon rails 220, 222 defined by the hull 95. The rails 220, 222 are positioned on opposite sides of the keel line 30 and are generally parallel. The rails 220, 222 extend between the rearward and forward storage positions 81a, 81b. The batteries 91a, 91b fit through the through-holes 92 and rest upon the rails 220, 222. When the carrier 80 is moved between the rearward and forward storage positions 81a, 81b, the batteries slide along the top surfaces of the rails 220, 222. The through-holes 92 are provided to reduce the overall height of the batteries such that the batteries have a sufficiently low profile to fit beneath the bottom wall 45 of the box-like structure 43 mounted beneath the front platform 32.

When the component carrier 80 is at the position 81a, the batteries can be readily accessed through the opening 60 defined through the cockpit floor. When the component carrier 80 is in the forward position 81b, the batteries are stored beneath the front storage compartment in a region that would typically otherwise be difficult to access.

While the component carrier has been shown as a tray with through-holes for receiving batteries, other carriers such as trays with raised edges, movable containers, movable platforms, baskets or other movable structures. Also, while the carrier 80 is shown moving beneath the front platform, carriers in accordance with the principles of the present disclosure can be used at any location where improved access to a remote storage location is desired.

Retaining structures can be provided for restricting vertical movement of the batteries relative to the component carrier. For example, as shown in Fig. 2, a brace 300 is mounted across the top of each battery. The brace 300 is coupled to the carrier 80 by vertical tie rods 302. The top ends of the rods 302 can be secured to the brace 300 by fasteners such as wing nuts. The lower ends of the rods 302 can be secured to the component carrier by structures such as nuts embedded in or otherwise engaging the component carrier. Other retaining structures such as straps, wires, brackets or like structures could also be used.

With regard to the forgoing description, changes may be made in detail, especially with regard to the shape, size and arrangement of the parts. It is intended that the specification and depicted aspects be considered illustrative only and not limiting with respect to the broad underlying concepts of the present disclosure.